

USSR/Diseases of Farm Animals. Diseases Caused by R-1
Viruses and Rickettsiae

Abs Jour : Ref Zhur-Biol., No 1, 1958, 2730

Author : ~~Berkovich R. D.~~

Inst : Buryat-Mongolian Veterinary Experimental Station

Title : Data on Investigating a Laboratory Method
for the Diagnosis of Aueski Disease in Pigs

Orig Pub : Tr.-Buryat.-Mong. n.-i. vet. opyt. st., 1956,
vyp. 3, 19-22

Abstract : The best antigen for RSK [Complement Fixation
Reaction] with hyper-immune pig sera is rab-
bit brain infected with the virus of Aueski
disease, which has been treated by means of re-
peated-70° freezings and thawings. RSK with hy-
perimmune pig sera were positive in 78-80% of
the cases. Complementing and compensating.

Card 1/1

BERKOVICH, R.D., kandidat veterinarnykh nauk.

Simple method for drying complement. Veterinariia 33 no.5:73 My '56.
(MLRA 9:8)

1. Buryat-Mongol'skaya nauchno-issledovatel'skaya veterinarnaya
opytnaya stantsiya.
(Complements (Immunity))

BERKOVICH, R. D. (Candidate of Veterinary Sciences, Buryat Scientific-Industrial Veterinary Laboratory) and IZYUMSKIY, N. S. (Veterinary Surgeon of the subsidiary farm of the Combine of Eating-Houses Ulan-Ude)

"Kormobakterin [a preparation made with the aid of Azotobacter suis microbe] - a growth stimulator"

Veterinariya, vol. 39, no. 7, July 1962 pp. 78

BERKOVICH, R.D., kand. veterin. nauk; IZYUMSKIY, N.S., veterin. vrach

Feed bacterin as a growth stimulator. Veterinariia 39 no.7:78-79 J1
'62. (MIRA 18:1)

1. Buryatskaya nauchno-issledovatel'skaya veterinarnaya laboratoriya
(for Berkovich). 2. Podsobnoye khozyaystvo tresta stolovykh Ulan-Ude
(for Izyumskiy).

BERKOVICH, R. Ye.

*KULAKOVSKIY, A.B., inzh.; BERKOVICH, R.Ye., inzh.

Precast reinforced concrete silos for storing cement in the
Netherlands. Nov. tekhn. i pered. op. v stroi. 20 no. 4:27-29

Ap '58.

(MIRA 11:3)

(Silos) (Netherlands---Precast concrete construction)

BERROVICH, S.E. and KHRUSHCHOV, M.M.

"Microhardness Determiner by the Indentation Test", Izv. AN SSR(Published by the USSR Academy of Sciences), (1943).

"Research in Corrosion of Metals (Issledovaniya Po Korrosii Metallov)".

Published by-- Inst. of Physical Chemical, USSR Academy of Sciences, Moscow-1951.

Translation--ATIC-79062-D

F-TS-8030-A/V.

24(7)

AUTHORS:

Berkovich, S.L., Gofren, M.V., Lobachev, M.V., Fal'k, T.K. and Sharonov, D.I. SOV/51-6-6-28/34

TITLE:

A High Intensity Spectrometer DFS-12 with Diffraction Gratings (Svetosil'nyy spektrometr s difraktsionnymi reshetkami DFS-12)

PERIODICAL:

Optika i spektroskopiya, 1959, Vol 6, Nr 6, pp 824-826 (USSR)

ABSTRACT:

A new high Intensity Spectrometer DFS-12, using diffraction gratings and photoelectric recording, was developed in 1957. This spectrometer makes it possible to record Raman spectra of transparent liquids and diffusely scattering substances such as turbid solutions, powders and glasses. The spectrometer works in the region 3500-5400 Å. Optically the spectrometer (Fig 1) is a double mirror monochromator (entry slit 1, exit slit 3) with two diffraction gratings (6). To correct for aberrations non-symmetric incidence on gratings was employed and parabolic mirrors (5) were used; the focal length of these mirrors were 800 mm and their relative apertures 1:5.3. The gratings had 600 lines/mm, ruled area 140 x 150 mm and were used in the second order, concentrating ~60% light in the region from 4300 to 4700 Å. Dispersion of the instrument when used as a double monochromator was 5 Å/mm. Using another slit (2) and a rotating mirror (7) the instrument could be used as an ordinary monochromator (exit slit 4) with 10 Å/mm dispersion. A

Card 1/2

A High-Speed Spectrometer DFS-12 with Diffraction Gratings

SOV/51-6-6-28/34

photomultiplier FEU-17 (8 in Fig 1) was used as a receiver. The photomultiplier was connected to a d.c. amplifier and an electronic recording potentiometer PSI-02. The spectrometer could be used to record spectral lines of energy 10^{-13} W. Together with this spectrometer a light source was developed for Raman spectral studies. This source was a spiral low-pressure mercury lamp with water-cooled electrodes. Continuous background is practically absent in the spectrum of this lamp and the width of spectral lines emitted by it does not exceed several hundreds of an angstrom. The lamp was supplied with stabilized d.c. current of 6-12 A from a rectifier. Factory tests of the spectrometer DFS-12 showed that Raman spectra were reproducible to within $\pm 2\%$. The instrument resolves a weak line at a distance of 11 cm^{-1} from a strong line. Advantages of the double monochromator principle are seen in a record of Raman spectrum of a glass with a large number of bubbles (Fig 2). Because the source was a low-pressure lamp it was possible to record also low frequencies of powdered samples (Fig 3). There are 3 figures.

Card 2/2

AKHUNDOV, B.M.; BERKOVICH, S.Sh.; BUZDAKOV, A.P.; KREPKOV, D.V.;
MANAKHOVA, T.Kh.; NECHETEV, V.F.

Industrial testing of lift well tubing zinc coated by the thermal
diffusion process. Trudy AzNII DN no.6:240-246 '57.

(MIRA 12:12)

(Zinc) (Pipe)

L 17144-63 EPR/EPF(c)/EWT(1)/EPF(n)-2/EWP(q)/EWT(m)/RDS APFPC/ASD/
APGC/IJP(C)/SSD P5-4/Pr-4/Pu-4/Pq-4 Wd/JD/KR
ACCESSION NR: AP3000447 S/0170/44/4000

AUTHOR: Berkovich, S. Ya.; Golovistikov, P. P.; Chentsov, R. A.

TITLE: Calculation of non-steady-state heat transfer from film to substrate

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 5, 1963, 99-105

TOPIC TAGS: heat transfer, superconducting thin film, computer memory device, storage, crystal substrate, amorphous substrate, thermal conductivity, memory

ABSTRACT: Many thin-film elements liberate heat during operation and the resulting rise in temperature may affect the performance of the element. This is particularly true of elements working at low temperatures, for example superconducting memory elements in computers. It is therefore of interest to determine the time dependence of the temperature of the film on the heat released. The problem is stated mathematically in equations (1) through (3) of Enclosure 1. An explanation of symbols used in equations is given in Enclosure 2. A method of solving this problem is described (Berezin, I. S.; Zhidkov, N. P., Metody vychisleniy, 2. Fizmatgiz, 1960). Results obtained on an electronic computer for thin films used in superconducting memory devices are discussed. It is shown that when the film is deposited on a crystalline substrate (sapphire) with high thermal diffusivity, the thermal resistivity of

Card 1/8 2

L 17144-63

ACCESSION NR: AP3000447

the film-substrate interface has an important effect on heat transfer (Fig. 1 of Enclosure 3). In the case of amorphous substrates, on the other hand, with low thermal diffusivity of the film-substrate interface, heat transfer is mainly determined by the product of the thermal conductivity and specific heat of the substrate (Fig. 2 of Enclosure 4). Orig. art. has: 20 formulas and 4 figures.

ASSOCIATION: Institut tochnoy mekhaniki i vychislitel'noy tekhniki AN SSSR, Minsk
(Institute of Precision Mechanics and Computer Technology of the AN SSSR)

SUBMITTED: 10Jun63

DATE ACQ: 10Jun63

ENCL: 04

SUB CODE: CP

NO REF SOV: 002

OTHER 001

Cord 2/12

BERKOVICH, S.Ya.

Current stability and switching in a superconducting memory.
Radiotekh. i elektron. 8 no.2:257-261 F '63. (MIRA 16:2)
(Information storage and retrieval systems)
(Superconductivity)

BERKOVICH, S. YA.
 AED Nr. 976-5/ 24 May

EFFECT OF JOULE HEAT ON DESTRUCTION OF SUPERCONDUCTIVITY BY
 A CURRENT (USSR)

Berkovich, S. Ya., and G. M. Lapir. Zhurnal eksperimental'noy i teoretiches-
 koy fiziki, v. 44, no. 4, Apr 1963, 1329-1332. S/056/63/044/004/030/044

The distortion of the curve representing the dependence of the resistance of a superconductive cylindrical specimen on temperature and current as a result of liberation of Joule heat has been investigated. Experimental observation was made possible by transforming the dependence of R on (T, I) into dependence on (T_B, I) , where T_B is the measurable temperature of a helium bath. Experiments with several tin specimens were performed in He I and He II. The results obtained were used to explain the deviation of experimental data given in the literature from those calculated by the London formula.

(JA)

Card 1/1

"APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920020-2

RESISTANCE TO THE SOVIET IN THE INTERMEDIATE PERIOD

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APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920020-2"

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H. 1. 11

100 100 100

100 100 100

1. The first part of the report

2. The second part of the report
3. The third part of the report
4. The fourth part of the report
5. The fifth part of the report
6. The sixth part of the report
7. The seventh part of the report
8. The eighth part of the report
9. The ninth part of the report
10. The tenth part of the report

I 65151-65 EWT(1)/EWA(h) GG

ABSTRACT: This Author Certificate presents a superconductor.

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CIA-RDP86-00513R000204920020-2

APPROVED FOR RELEASE: 06/08/2000

CIA-RDP86-00513R000204920020-2"

1 21183-66

ACC NR: AP6007515

SOURCE CODE: UR/0109/66/011/002/0353/0355

AUTHOR: Berkovich, S. Ya.

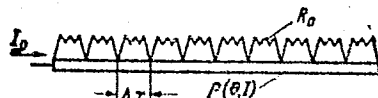
ORG: none

TITLE: Superconductor model of transmission of a neural pulse *g*

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 353-355

TOPIC TAGS: nervous system, neural pulse

ABSTRACT: An active line is considered in which a restorable propagation of stimulation (signal) is possible. The line (see figure) comprises a superconducting wire or film whose segments Δx are shunted by normal conductors. Functioning of this model depends on the thermal propagation of normal phase in the superconductor; if a small current-carrying segment of the superconductor is turned into the normal state, the entire superconductor may be transferred into the normal state due to liberation of Joule heat. After the normal phase completes its propagation, the superconducting state is restored due to normal shunting conductors. Formulas for the heat liberation per unit length and for the time of signal propagation are derived. Orig. art. has: 2 figures and 11 formulas.



[03]

SUB CODE: 09, 06 / SUBM DATE: 10Apr65 / ORIG REF: 001 / OTH REF: 005 / ATD PRESS:

Card 1/1 *FB*UDC: 62-50:57 *4218*

BERKOVICH, S.Z. (Leningrad)

Industrial training of secondary school students. Shvein, prom.
no.1:32-33 Jan '62. (MIRA 15:4)
(Clothing industry) (Vocational education)

BERKOVICH, Ya.G.

Existence of subgroups in a finite insolvable group. Dokl.
AN SSSR 156 no.6:1255-1257 Je '64. (MIRA 17:8)

1. Gomel'skoye otdeleniye Instituta matematiki i vychislitel'noy
tekhniki AN BSSR. Predstavleno akademikom A.I. Mal'tsevim.

X

sand with a grain size modulus 2.1. The H_2O was that of the city supply. The results were plotted in diagrams with $c/\Delta s$ as ordinate, t as abscissa. Linear equations of the type $c/\Delta s = (a'/\Delta s_0) + (1/\Delta s_0)c$ were obtained from which Δs_0 was given as $\cot \beta$ of the slope (β the angle with the abscissa axis), a' is the segment on the ordinate axis, from which a' is given as $a'(\Delta s_0)$ in Langmuir's adsorption isotherm, from which the curves for the plasticity, water need, and air content (porosity) were derived. The agreement of the calcd. with the exptl. results is very satisfactory. Certain deviations are explained for the Na soap of colophonium through its very easy and sudden changes in dispersity and thereby of its surface-active effects in a change of concn. W. Eitel

CA

20

Mechanism of the effect of air-retaining substances on
 portland cement mortars and concretes. Yu. M. Butt
 and T. M. Barkovich. *Zhur. Priklad. Khim.* (J. Applied
 Chem.) 22, 883-89 (1949); cf. C.A. 43, 1543g. Sedimenta-
 tion of cement suspensions is retarded by addn. of rosin and
 abietic soaps; peptization effect by abietic soap was greater
 than by rosin soap. Addn. of each soap raised plasticity of
 cement paste; an increase of 35-45% in plasticity was pro-
 duced by 0.03% soap. During the first 7 days, the soaps
 had no adverse effect on strength but after 28 days, strength
 was reduced 20-30% by addn. of 2% soap; effect of abietic
 soap on strength was somewhat less than rosin soap. True
 porosity of hardened cements was increased by addn. of
 soaps. Various effects of soaps are explained by mechanism
 of adsorption process and follow the equations similar to
 that of the isotherm of adsorption. B. Z. Kamik

1951

DOLINSKAYA, E.S.; GAMAYUNOV, N.I.; BERKOVICH, T.M.

Using radioisotopes for examining the thermal gradient transfer
of moisture in the "raw" asbestos cement. Trudy NIIsbesttsementa
no.19:80-95 '65. (MIRA 18:9)

BERKOVICH, T. M.

PA 52/49T33

USSR/Engineering
Cement
Plasticizers

May 49

"Rosin and Abietic Tar as Plasticizers of Portland Cement," Yu. M. Butt, T. M. Berkovich, 3 $\frac{1}{2}$ pp

"Dok Ak Nauk SSSR" Vol LXVI, No 3

Studies influence of cement's mineral composition on action of rosin and abietic tar. Recommends their use to increase plasticity and durability of concrete and cement. Does not recommend abietic tar for cements of high celite content. Submitted by Acad D. S. Belyankin, 28 Mar 49.

52/49T33

BERKOVICH, T. M., DEMINA, V. V.

Cement

Acceleration of setting processes in asbestos cement products. Trudy VNIISBESTSTREMENT
no. 2, 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 195²₄, Uncl.

BERKOVICH, T. M. nad others

Cement

Processes in asbestos cement setting and cement requirements of the asbestos cement industry. Trudy VNIISBESTTSEMENT, no. 2, 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 195²₈, Uncl.

12

7997* Influence of Organic Additives on the Physico-chemical Properties of Cement Minerals. (In Russian.) Yu. M. Butt and T. M. Berkoyich. *Doklady Academy Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 77, Mar. 21, 1951, p. 453-455.

Briefly reviews previous work on the above and describes new experiments on the effects of resinous acids ($C_{12}H_{10}O_4$) on microstructure of portland cements. A new method involving H_2S diffusion was used. Results are tabulated and illustrated. 15 ref.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDER

3RD AND 4TH ORDER

5TH AND 6TH ORDER

7TH AND 8TH ORDER

9TH AND 10TH ORDER

11TH AND 12TH ORDER

13TH AND 14TH ORDER

15TH AND 16TH ORDER

17TH AND 18TH ORDER

19TH AND 20TH ORDER

21ST AND 22ND ORDER

23RD AND 24TH ORDER

25TH AND 26TH ORDER

27TH AND 28TH ORDER

29TH AND 30TH ORDER

31ST AND 32ND ORDER

33RD AND 34TH ORDER

35TH AND 36TH ORDER

37TH AND 38TH ORDER

39TH AND 40TH ORDER

41ST AND 42ND ORDER

43RD AND 44TH ORDER

45TH AND 46TH ORDER

47TH AND 48TH ORDER

49TH AND 50TH ORDER

51ST AND 52ND ORDER

53RD AND 54TH ORDER

55TH AND 56TH ORDER

57TH AND 58TH ORDER

59TH AND 60TH ORDER

61ST AND 62ND ORDER

63RD AND 64TH ORDER

65TH AND 66TH ORDER

67TH AND 68TH ORDER

69TH AND 70TH ORDER

71ST AND 72ND ORDER

73RD AND 74TH ORDER

75TH AND 76TH ORDER

77TH AND 78TH ORDER

79TH AND 80TH ORDER

81ST AND 82ND ORDER

83RD AND 84TH ORDER

85TH AND 86TH ORDER

87TH AND 88TH ORDER

89TH AND 90TH ORDER

91ST AND 92ND ORDER

93RD AND 94TH ORDER

95TH AND 96TH ORDER

97TH AND 98TH ORDER

99TH AND 100TH ORDER

BERKOVICH, T. M.

Proizvodstvo shifera na peschanistykh tsementakh i izves'kopeshanoni vlyazh shchem s primeneniem avtoklava / Slate production with sandy cements and a sand-lime binder, using an autoclave. Moskva, Promstroizdat, 1953. 24 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 12 March 1954.

BERKOVICH, T. M.

BUTT, Yu.M.; BERKOVICH, T.M.; TYUTYUNIK, M.S., redaktor; PANOVA, L.Ya, tekhnicheskiy redaktor.

[Binding agents with added surface active substances] Viasushchie veshchestva s poverkhnostno-aktivnymi dobavkami. Pod red. P.A. Rebindera. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953.

247 p.

(MLRA 7:7)

(Concrete) (Surface active agents)

BERKOVICH, T. M.

PHASE I
BOOK

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 502 - I

Call No.: TA 435.B77

Authors: BUTT, Yu. M. and BERKOVICH, T. M.

Full Title: BINDING AGENTS WITH SURFACE ACTIVE INGREDIENTS

Transliterated Title: Vyazhushchiye veshchestva s poverkhnostnoaktivnymi dobavkami
PUBLISHING DATA

Originating Agency: None

Publishing House: State Publishing House of Literature on Building Materials

Date: 1953

No. pp.: 448

No. of copies: 4,000

Editorial Staff: None

PURPOSE: This monograph is intended for scientific researchers, engineers and technicians working in the field of construction materials.

TEXT DATA

Coverage: This monograph deals with binding agents used as building solutions and added to concrete mixtures; their production, properties, advantages and applications are described. Various organic admixtures are considered, particularly their influence on the properties of cements depending on their mineralogical composition, conditions in which they set, fineness of their grinding, the content of gypsum and other factors. The admixtures under consideration are of two categories: ~~water-admitting~~ water-admitting, e.g., sulphate cellulose liquor and water repellent, e.g., naphthanate soap, acidol containing naphthanate soap, etc. The influence of organic surface active ingredients on the properties of binding materials is explained according to present physicochemical concepts concerning dispersion systems and surface phenomena

Vyazhushchiye veshchestva s poverkhnostnoaktivnymi dobavkami

AID 502 - I

No. of References: Russian 144 (1928-1952)

Facilities: A number of institutions and laboratories where research work on cement is conducted are listed in the preface, also names of many scientific researchers, among them P. A. Rebinder, who wrote the first chapter of the book.

1. YU M. BUTT, PROF., T. M. BERKOVICH
2. USSR (600)
4. Cement
7. Effect of surface-acting substances on the properties of cements with admixtures. TSement 18 no. 6. 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

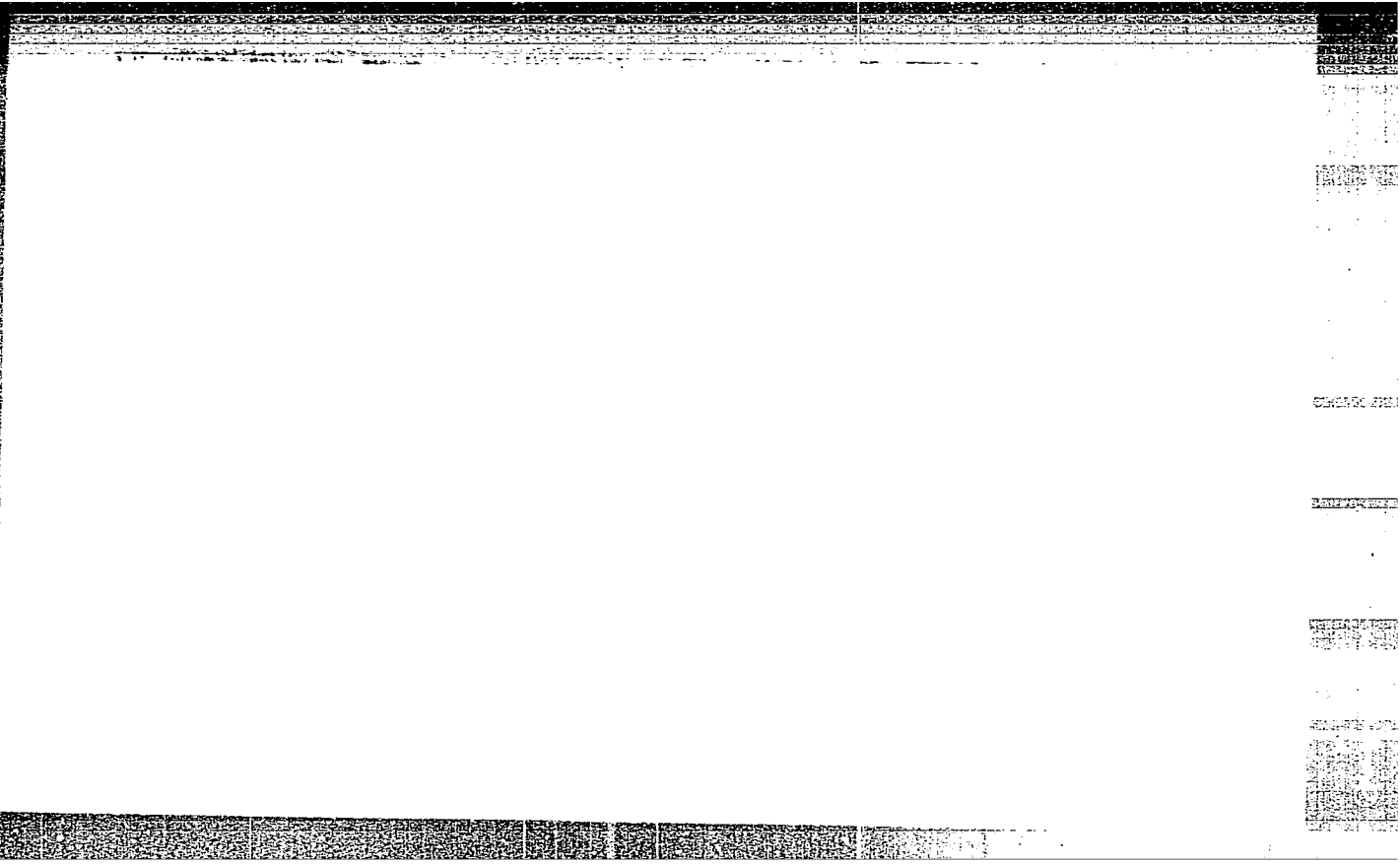
BERKOVICH, T.M.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Cement, Concrete, and Other
Building Materials

(5) mat
/ Autoclave-method of making asbestos-cement slate. T. M. Berkovich, T. L. Rabinov, and V. L. Gol'denvelner. *Tekhnika* 19, No. 4, 19-23 (1953).--In the existing method of making asbestos-cement slate, high-grade portland cement is used as the bond, and the cement and slate are steamed at 50-60° for 8-10 hrs. and then hardened in storage for 7-10 days. In an improvement of this method, not less than 50% of finely ground quartz sand is added to the cement, and the cement and slate are treated in an autoclave at 8 atm. for 8 hrs.
B. Z. Karalich

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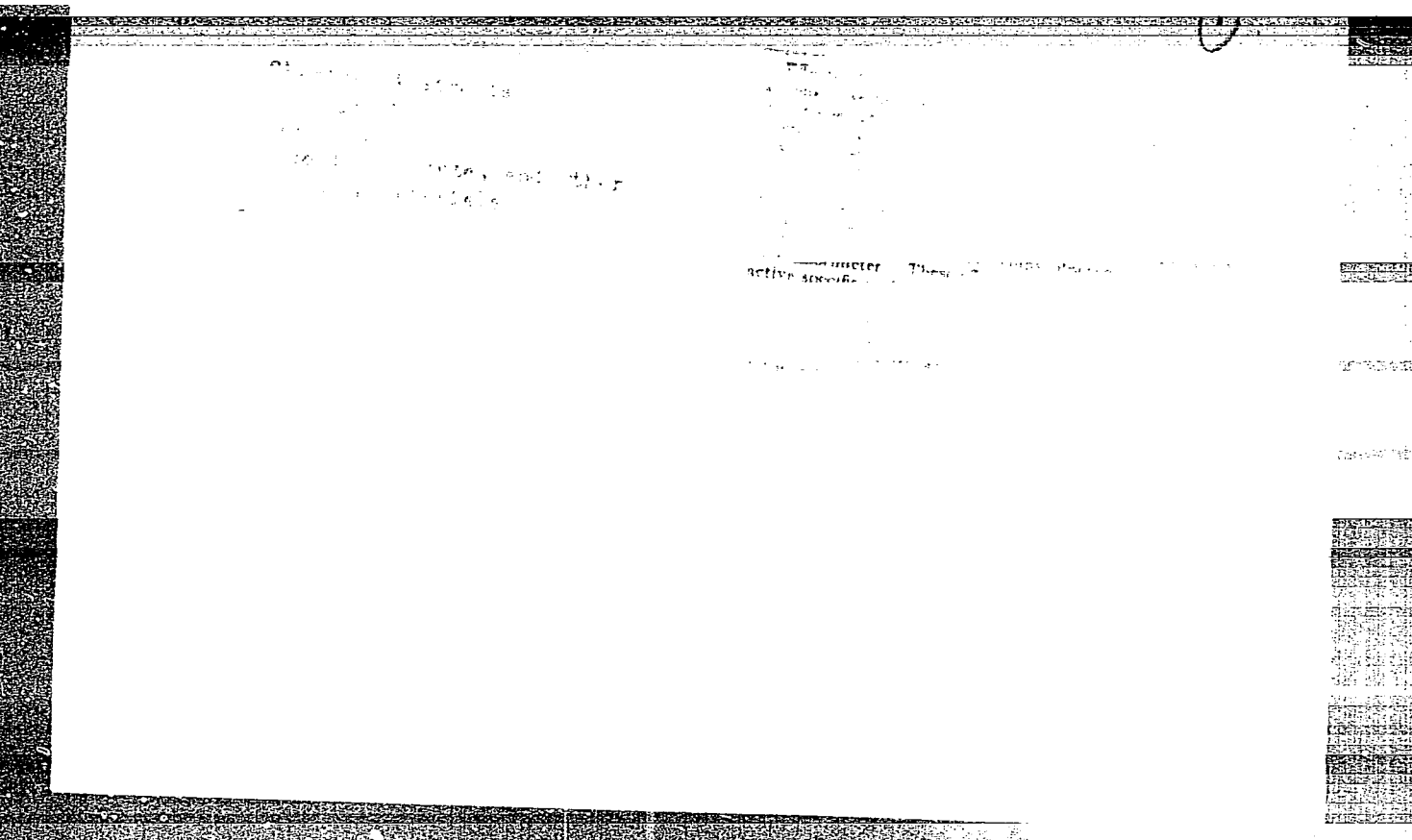
Thermochemistry of the hardening of asbestos cements.
 T. M. Borkovich (All-Union Sci. Research Inst. Asbestos-
 Cement, Moscow). *Zhur. Priklad. Khim.* 26, 364-7 (1953);
J. Appl. Chem. (U.S.S.R.) 26, 331-4 (1953) (in English);
Ch. Abstr. 43, 30043d. — The hardening of asbestos cements is
 a linear function of the temp. increase measured in the set-
 ting standard sample, or more generally, of the hydration
 of the hydraulic components of the portland cement. An
 indicator of this hydration is the chemically bound H_2O in
 the sample. The initial reactivity (K) of the asbestos cement
 is functionally connected with the parameters of the curve of
 temp. increase τ_1 , τ_2 , and $\Delta h/\Delta h_0$ (in which τ_1 , τ_2 , and τ_3 are
 the time coordinates of the three characteristic inflection
 points on the curve of temp. vs. time of the cement). Port-
 land cements with addns. of calcined clay are not suitable
 for the production of asbestos cement products because of
 their low K and low $\Delta h/\Delta h_0$. W. Bitel

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BUDNIKOV, P.P.

"Binding substances with surface-active additions." IU.M. Butt,
T.M. Berkovich. Reviewed by P.P. Budnikov. Zhur. prikl. khim. 27
no. 6:689-690 Je '54. (MLRA 7:8)
(Surface-active agents) (Butt, IU.M.) (Berkovich, T.M.)
(Binders (Chemistry))

BERKOVICH, T., kandidat tekhnicheskikh nauk; RABINOV, I., kandidat
tekhnicheskikh nauk; SOLNTPSEVA, V., kandidat tekhnicheskikh nauk;
SMIRNOV, N., doktor geologo-meneral'nyy nauk; SHNEYDER, V.,
kandidat ekonomicheskikh nauk.

Making roof slate and asbestos pipes using a sand cement base.
Stroi.mat., izdel.i konstr. 1 no.11:4-6 N '55. (MLRA 9:5)
(Roofing) (Asbestos cement)

Some colloid-chemical processes in the technology of
asbestocement. T. M. Berkovich (All-Union Sci. Research
Inst. Asbestos-Cement Products, Moscow). *Kolloid. Zhur.*
17, 203-9 (1955).—The specific surface area of a mixt. of as-
bestos 15% and portland cement 85% was raised, e.g., by
50% when the mixt. was treated with 16 parts of H₂O.
This area was found by comparing the rate of sedimentation
of the powder with that of ground sand and marble. Quartz
sand improved, and clay worsened the properties of the as-
besto cement. J. J. Bickman

BERKOVICH, T. M.

USSR/ Chemical Technology - Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders. I-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12697

Author : Berkovich T.M., Rabinov I.L., Solntseva V.L., Smirnov N.N.

Inst : All-Union Scientific Research Institute of Asbestos, Mica and Asbestocement Articles.

Title : Physicochemical Foundation of the Production of Slate from Sandy Cement with Steaming in Autoclaves.

Orig Pub : Tr. Vses. n.-i. in-ta asbesta, slyudy i asbestotsement. izdelya, 1956, No 4, 3-18

Abstract : Utilized were sandy cements produced by milling of Portland cement clinkers of different mineralogical composition with quartz sand in the proportion of 1:1. The cement was milled with 3.6% of gypsum dihydrate until a 7.5-8.5% residue was obtained on a No.0085 screen. The asbestos used consisted of 50% M-50-60 and 50% P-6-30. The specimens were steamed at a pressure of 2-15 atm

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USSR/Chemical Technology - Chemical Products and Their
Application . Silicates. Glass. Ceramics. Binders.

I-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12697

for a period from 15 minutes to 24 hours, and were subjected thereafter to physico-mechanical tests, chemical analysis, and X-ray and petrographic investigations. Ca(OH)_2 reacts with asbestos fibers to form Ca hydrosilicates. Strength of asbestocement is correlated in a complex manner with the duration and pressure of the steam treatment. On attainment of high strength indices of the autoclaved asbestocement the Ca(OH)_2 liberated in the process of hydration of Portland cement is completely combined in the form of hydrosilicate by action of the finely dispersed quartz sand. Amount of sand that has reacted is proportional to the duration of steaming and the temperature. Extent of silicatisation of the grains of sand increases with increasing pressure and duration of steaming. The temperature coefficient of the process of chemical combining of the sand component, during steaming of asbestocement,

Card 2/3

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USSR/Chemical Technology - Chemical Products and Their
Application. Silicates. Glass. Ceramics. Binders.

I-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12697

has an average value of 1.2. When the amount of reacted sand is such that a maximum strength of asbestocement is attained, the calculated depth of silicatization of the grains of sand is, on the average, of 0.3μ .

Card 3/3

- 145 -

15-57-1-770

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1,
p 121 (USSR)

AUTHOR: Berkovich, T. M.

TITLE: Investigation of the Kinetics and the Nature of
Absorption of Calcium Hydroxide by Chrysotile Asbestos
(Issledovaniye kinetiki i prirody pogloshcheniya
khrizotil-asbestom gidrata okisi kal'tsiya)

PERIODICAL: Tr. Vses. n.-i. in-ta asbesta, slyudy, asbestotsement.
izdely, 1956, Nr 4, pp 19-37.

ABSTRACT: Chrysotile asbestos has a capacity to absorb $\text{Ca}(\text{OH})_2$
similar to the capacity of activated coal. In com-
parison with active acidic hydraulic admixtures
(tripoli), asbestos has 3.5 to 5 times less absorbing
capacity, and it is 10 to 20 times less effective than
active silica. In ten minutes asbestos absorbs
approximately 20 percent of the total quantity of
 $\text{Ca}(\text{OH})_2$ it will absorb in 30 days. The average rate of
absorption of $\text{Ca}(\text{OH})_2$ by asbestos in the first ten

Card 1/2

Investigation of the Kinetics and the Nature (Cont.)

15-57-1-770

minutes is 600 to 700 times greater than in the subsequent period. Preliminary mechanical treatment of the asbestos increases its absorption of $\text{Ca}(\text{OH})_2$. The investigations of the author lead him to the conclusion that the absorption of lime by asbestos is a chemical process.

Card 2/2

V. P. Ye.

BERKOVICH, T.M.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders. I-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12696

Author : Berkovich, T.M.

Inst : All-Union Scientific Research Institute of Asbestos, Mica and Asbestocement Articles

Title : Investigation of Kinetics and Nature of the Absorption of Calcium Hydroxide by Chrysotile Asbestos.

Orig Pub : Tr. Vses. n.-i. in-ta asbesta, slyudy i asbestotsement. izdelyi, 1956, No 4, 19-37

Abstract : Kinetics of absorption of Ca(OH)_2 (I) by asbestos (A) was studied by two procedures based on the methods of determination of the activity of acid hydraulic additions. The principal experiments were carried out with commercial A of G-5-60 grade. During the first 10 minutes A absorbs $\sim 20\%$ of the total amount of I that is absorbed within 30 days. Mean rate of absorption during

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USSR/Chemical Technology - Chemical Products and Their
Application. Silicates. Glass. Ceramics. Binders.

I-9

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12696

the first 10 minutes is 600-700 times greater than that during the subsequent period. Preliminary fluffing increases the absorption of I by the asbestos. Correlation between degree of fluffing of A and absorption of I is characterized by the magnitude of angle coefficient $tg \alpha$, of the curve that defines this correlation. Ascertained was the possibility of characterizing, by means of the value of $tg \alpha$, the processes that take place on mechanical processing of A by means of various apparatus. Addition of gypsum increases the absorption of I by A , over a short as well as over a protracted length of time. The investigations lead to the conclusion that absorption of lime by A is of a chemisorptive nature.

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BERKOVICH, T.M.; BOYAZHYY, L.S.; LUKOSHKINA, L.A.; DAVYDOVA, F.L.;
~~SHCHERBA~~, V.Ye.; SHPAYER, A.L., redaktor; PYATAKOVA, N.D.,
tekhnicheskij redaktor

[Manufacture of asbestos-cement elements] Proizvodstvo asbesto-
tsementnykh izdelii. Pod red. T.M.Berkovicha. Moskva, Gos.
izd-vo lit-ry po stroit.materialam, 1957. 262 p. (MLRA 10:9)
(Asbestos cement)

BERKOVICH, Tobias Moysseyevich, kand.tekhn.nauk; SOKOLOV, P.N., kand.tekhn.
nauk, nauchnyy red.; SHPAYER, A.L., red.; GILENSON, P.G., tekhn.red.

[Autoclave asbestos cement] Avtoklavnyi asbestotsement. Moskva,
Gos. izd-vo lit-ry po stroit. materialam, 1957. 197 p. (MIRA 11:2)
(Asbestos cement)

SOV/ 20-120-2-42/63

AUTHORS: Berkovich, T. M., Kheyker, D. M., Gracheva, O. I.,
Kupreyeva, N. I.

TITLE: On the Phase Composition of Products Formed in the Hydration
of C_3S and $\beta-C_2S$ (K voprosu o fazovom sostave produktov
gidratatsii C_3S i $\beta-C_2S$)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 120, Nr 2, pp.372-375
(USSR)

ABSTRACT: This phase composition exerts considerable influence upon
the properties of hardened cement stone. In spite of several
published papers (Refs 1 - 5) this problem has not yet been
cleared. Therefore the hydration processes were investigated
at the Institute under different conditions of temperature and
moisture together with the influence exerted by additions
of ground quartz sand and asbestos. The compounds mentioned
in the title were produced. The results showed the following:
 $Ca(OH)_2$ as well as calcium-hydrosilicates, the phase compo-
sition of which depends on the temperature, to which the
system was exposed, form in the system C_3S-H due to the pro-
cess of hydration. The determination of this phase composition

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SOV/20-120-2-42/63

On the Phase Composition of Products Formed in the Hydration of C_3S and $\beta-C_2S$

is rendered difficult by the fact that the characteristic lines for the fibrous hydrosilicates C_2SH_2 and $CSH(B)$ on the radiograms (3,04 and 1,83 Å) coincide with the lines of non-hydrated alite. It is true that the lack of characteristic lines of other hydrosilicates causes the formation of fibrous hydrosilicates to be considered probable (Figure 1). The absence of the exothermal effect at 830-860°C on thermograms (Figure 2, a, b, v) which is characteristic of $CSH(B)$ permits the conclusion that C_2SH_2 forms under these conditions. During the hydration of C_3S in the presence of asbestos in the system C_3S-A-H the amount of C_2SH_2 is considerably reduced, but on the whole the same phase composition as in system C_3S-H is preserved. The influence exerted by treatment in an autoclave upon the hardness of cement stone of C_3S (Table 1) depends on the intensity of the former. A too intensive treatment leads to a decrease in hardness. Worked for 8 hours at 8 atmospheres excess pressure the stone gains in hardness. By the addition of ground quartz sand the phase composition of the new formations in the C_3S-H system produced by the autoclave treatment is abruptly changed (Figure 3). The $Ca(OH)_2$ -content is considerably reduced,

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SOV/20-120-2-42/63

On the Phase Composition of Products Formed in the Hydration of C_2S and $\beta-C_2S$

C_3SH_2 and $C_3SH(A)$ are absent. Instead of strongly basic hydrosilicates C_3SH_2 and $C_3SH(A)$ weakly basic hydrosilicates $CSH(B)(Ag_3)$ form. On the introduction of asbestos into the system the new formations are additionally changed. The influence of different regimes of the autoclave-treatment upon the hardness of a mixture of 75 % C_2S + 25 % S is still more complicated, as an overlapping of the corrosion effect of asbestos probably occurs here. There are 4 figures, 2 tables, and 6 references, 4 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut asbesta, slyudy, asbestotsementnykh izdeliy i proyektirovaniya stroitel'stva predpriyatiy slyudyanoy promyshlennosti (All Union Scientific Research Institute for Asbestos, Mica, Asbestos-Cement-Products and for the Design of Factories of Mica Industry)

PRESENTED: December 18, 1957, by P. A. Rebinder, Member, Academy of Sciences, USSR

SUBMITTED: December 3, 1957
Card 3/4

On the Phase Composition of Products Formed in the
Hydration of C_3S and $\beta-C_2S$

30V/20-120-2-42/65

1. Concrete---Phase studies
2. Concrete---Properties
3. Concrete---Processing
4. Concrete---Test methods

Card 4/4

SOV/20-120-4-45/67

AUTHORS: Berkovich, T. M., Kheyker, D. M., Gracheva, O. I.,
Zevin, L. S., Kupreyeva, N. I.

TITLE: Investigation of the Properties of Calcium Hydrosilicates
(Issledovaniye svoystv gidrosilikatov kal'tsiya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 4, pp.853-856
(USSR)

ABSTRACT: Several authors based their explanations of the particular
features of the technical properties (strength, shrinking)
of binding materials on the conceptions concerning the phase
composition, the structure and the existence of individual
calcium hydrosilicates in the hydrated concrete. However, the
data obtained by different authors concerning the individual
calcium hydrosilicates do not always agree with each other.
In order to obtain a clear picture of the phase composition
of complicated systems of hydrosilicates a comprehensive phase
analysis must be employed. In this connection the knowledge
of such constants of hydrosilicates as the interplanar spacing,
the line intensity in X-ray diagrams, the temperature and the
magnitude of thermal effects, the position of the absorption

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SOV/20-120-4-45/67

Investigation of the Properties of Calcium Hydrosilicates

bands in the infrared spectra and similar data is necessary. Apart from these data an understanding of the technical properties of the individual hydrosilicates must be reached if the development of production methods of materials with prescribed properties is intended. In the Institute "Asbest-tsement" a number of the most important hydrosilicates was synthesized, and their properties were studied. The X-ray diagrams (Fig 1) were recorded by means of $\text{CuK}\alpha$ radiation with a nickel filter on a diffractometer of the type UPC-50I with a Geiger counter. The curves of thermal differential analysis and of weight losses on heating (Fig 2) were determined on a thermalbalance. The absorption spectra in the infrared range (Fig 3) were taken on a IKS-11 spectrometer. Electron microscope images were obtained with a microscope EM-3 with an electron-optical scale factor of 3900. The hydrosilicate C_2SH (A) which is formed in the hydration of portland concrete and which leads to a reduction of the strength of autoclave products, was synthesized by a hydrothermal treatment of a mixture of CaO with quartz sand mixed at a ratio of 2:1 at 175° during 72 hours. The hydrosilicate $\text{C}_2\text{SH(C)}$ was formed after an identical treatment of 70 hours

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SOV/20-120-4-45/67

Investigation of the Properties of Calcium Hydrosilicates

duration. Low-basicity hydrosilicates CSH(B) with a fiber-like texture of a basicity of from 1,25-0,8 play an important part in the autoclave hardening of sandy cements and low-basicity lime-sand mixtures. Together with tobermorite they are the cause for the high strength of these minerals. They were produced by a hydrothermal treatment of a mixture of CaO- and silicagel (1:1) at 175°, for 1, 2 and 3 hours or for from 6 - 8 hours. The hydrosilicate $C_4S_5H_5$ (tobermorite) was synthesized from CaO and quartz sand⁴(0,8:1) at 175°, and a heating for from 12 - 48 hours or of 7 days. Hydrosilicate of flint CSH(A) was produced from CaO and quartz sand with a value of C/S = 0,8 + 18 % of water at a pressure of 100 kg/cm² at 175°, for from 14 to 60 days. The experiments showed that the reaction of the formation of hydrosilicates is considerably slowed down in pressed samples at a steaming in autoclaves as compared to the reaction of the same initial components taken as a suspension. In spite of the existing evidence (Ref 11) stating that among calcium hydrosilicates tobermorite has the greatest crushing strength, the experiments of the authors show, that the flexure strength of the

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Investigation of the Properties of Calcium Hydrosilicates

SOV/20-120-4-45/67

samples does not increase with growing content of tobermorite. It can be supposed that the flexure strength of fiber-like structures is by no means inferior to that of plate-like structures, which was proved. There are 3 figures and 11 references, 3 of which are Soviet.

PRESENTED: February 5, 1958, by P. A. Rebinder, Member, Academy of Sciences, USSR

SUBMITTED: December 13, 1957

1. Calcium silicates--Properties
2. Calcium silicates--Phase studies
3. Calcium silicates--Analysis

Card 4/4

BERKOVICH, T.M., kand.tekhn.nauk

Effect of technological factors on deformative properties
of asbestos cement used in making construction elements.

Stroi.mat. 6 no.4:19-22 Ap '60. (MIRA 13:6)

(Asbestos cement)

BERKOVICH, T.M.

Physicochemical principles underlying the treatment of cement materials by heat and humidity. Dokl.AN SSSR 133 no.5:1140-1142 (MIRA 13:8)
Ag '60.

1. Nauchno-issledovatel'skiy institut Asbesttsementa. Predstavleno akademikom, F.A.Rebinderom.
(Cement)

BERKOVICH, T. M.

Doc Tech Sci - (diss) "Study of the process of hardening of asbestos-cement." Moscow, 1961. 25 pp with cover; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Chemical Technology Inst imeni D. I. Mendeleyev); 200 copies; price not given; list of author's works on pp 24-25 (36 entries); (KL, 7-61 sup, 229)

BERKOVICH, T.M., kand.tekhn.nauk

Accelerating the process of hardening slate by combined heat and
moisture. Stroi.mat. 7 no.5:7-9 My '61. (MIRA 14:6)
(Asbestos cement)

BERKOVICH, T.M., kand. tekhn. nauk; BOYAZNYY, L.S., inzh.; DAVYDOVA, F.L., inzh.; LUKOSHKINA, L.A., kand. tekhn.nauk; SHNEYDER, V.Ye., kand. ekonom. nauk, dots.; SOKOLOV, P.N., prof., nauchnyy red.; TYUTYUNIK, M.S., red. izd-va; SHERSTNEVA, N.V., tekhn. red.

[Manufacture of asbestos-cement products]Proizvodstvo asbesto-
tsementnykh izdelii. Izd.2., perer. i dop. Pod red. T.M.
Berkovicha. Moskva, Gosstroizdat, 1962. 367 p.

(MIRA 15:12)

(Asbestos cement)

BERKOVICH, T.M.

Physicochemical principles of intensifying the hardening process
of portland-cement asbestos cement. Trudy NIIsbesttssementa
no.15:3-30 '62. (MIRA 16:7)
(Asbestos cement)

MIKHALEVSKAYA, Ye.S.; VOLKOV, O.S.; BULANOVA, L.P.; BERKOVICH, T.M.

Effect of the water-cement factor on the kinetics of cement and
asbestos cement hydration. Trudy NIIAsbesttsementa no.15:31-37
'62. (MIRA 16:7)

(Cement) (Asbestos cement)

BERKOVICH, T.M.; ISAYEVA, O.A.; NOVIKOVA, D.A.; KRUNYA, Z.F.; LEVICHEVA, M.M.;
TRET'YAKOVA, R.K.; BYKOVA, K.M.

Study of combined processes of heat and moisture treatment of
asbestos-cement sheets for N.I.Ershov's unlined mechanized
production-line units. Trudy NIIAsbesttsementa no.15:38-56
'62. (MIRA 16:7)

(Asbestos cement)

RAYNISH, Z.B.; BERKOVICH, T.M.

Heat and moisture treatment and the hardening of asbestos cement
on I.A.Cherneto's unlined mechanized production-line unit. Study
NIIAsbesttsamenta no.15:57-63 '62. (MIRA 16:7)
(Asbestos cement)

BERKOVICH, T.M.; ISAYEVA, O.A.; BYKOVA, K.M.; LEVICHEVA, M.M.; KRUNYA, Z.F.;
VOLKOVA, S.B.

Intensifying the hardening process of asbestos-cement sheets made
with portland cement by additional brief wetting of the semifinished
product. Trudy NIIAsbesttsementa no.15:64-81 '62. (MIRA 16:7)
(Asbestos cement)

BERKOVICH, T.M., kand.tekhn.nauk

Method of intensifying the process of hardening "slate."
Stroi. mat. 8 no.5:15-17 My '62. (MIRA 15:7)
(Asbestos cement)

S/891/62/000/000/006/006
A057/A126

AUTHOR: Berkovich, T.M.

TITLE: The efficient use of the binding properties of cement in the technology of asbestos-cement articles

SOURCE: Novoye v khimii i tekhnologii tsementa; trudy soveshchaniya po khimii i tekhnologii tsementa, 1961 g. Ed. by P.P. Budnikov and others, Moscow, Gosstroyizdat, 1962, 219 - 227

TEXT: The All-Union Conference of Cement Chemistry in 1956 suggested further studies of the process of steaming and autoclave hardening of cement binders to determine the reactions and the composition and structures of new formations. The present author studied in earlier works together with S.S. Smirnov, D.M. Kheyker, O.I. Gracheva, and N.I. Kupreyeva in the Institut NIAsbesttsement VSNKh (Institute NIAsbesttsement VSNKh) the hardening of cement stone and asbestos-cement at different temperatures. Steaming at atmospheric pressure does not change considerably the phase structure of the hydration products - C_3A and C_4AF , but decreases the dispersity of the hydrates in the cement stone, which is

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The efficient use of the binding properties of

S/891/62/000/000/006/006
A057/A126

the main effect of steaming upon the properties of asbestos-cement. The negative effect of coarse crystallinity of newly formed hydrates in hardening of binders at high temperatures (autoclave) was observed by P.I. Bozhenov, Yu.M. Butt, A.V. Volzhenskiy, S.A. Mironov, and S.A. Krzheminskiy and was proved to be valid also for asbestos-cement materials by the present author. According to P.A. Rebinder and Ye.Ye. Segalova steaming intensifies the formation of a crystallization frame and its solidification. To determine optimum technological conditions for the production of asbestos-cement materials O.S. Volkov investigated in the Laboratoriya fizicheskikh metodov issledovaniya NIIAsbesttsement (Laboratory of Physical Methods of Investigation NIIAsbesttsement) combined treatments of the binder, i.e., steaming and holding in heated water. He determined by X-ray analysis the residual non-hydrated $C_3S + \beta-C_2S$ and observed that the combined treatment decreases sharply the amount of non-hydrated alite and belite grains, thus promoting a greater velocity and thoroughness of cement hydration. Optimum conditions for the combined treatment are: 1) Steaming 3 - 4 h at 50 - 60°C (or 1 h at 60 - 70°C); 2) holding in heated water for 8 - 24 h at 50 - 80°C. A highly efficient use of binding properties of the cement can be attained by autoclave hardening. The present author studied the hardening of the systems:

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The efficient use of the binding properties of

S/891/62/000/000/006/006
A057/A126

$C_3S - S - C_s - H$ and $\beta - C_2S - S - C_s - H$ by chemical, thermal, X-ray and petrographic methods. Autoclave treatment of C_3S and addition of milled quartz sand increases the mechanical strength of the steamed cement stone. Several tests showed that high-qualitative asbestos-cement articles of different shape (tubes, sheets, roof slates, etc.) can be produced by the autoclave method from sand containing portland cement. The production of asbestos-cement tubes on this basis is foreseen in three plants. High-quality autoclave slate based on sand containing portland cement is developed and produced by the Daugelyayskiy kombinat stroitel'nykh materialov (Daugelyaysk Combine for Building Materials) in cooperation with the Institute NIIAsbesttsement and the Litovskiy institut novykh stroitel'nykh materialov (Litovsk Institute of New Building Materials). There are 1 figure and 1 table.

Card 3/3

BERKOVICH, T.M., kand.tekhn.nauk; BLOKH, G.S., kand.tekhn.nauk;
HERZEMISHVILI, G.A., inzh.; LEVICHEVA, M.M., inzh.

Effect of the operating conditions of a sheet-molding machine
on the frost resistance of autoclaved asbestos cement. Trudy
NIIA, bests. cementa no.13:88-89 '62. (MIRA 15:12)
(Asbestos cement--Thermal properties)

BERKOVICH, T.M.

Kinetics of the cement hydration process. Dokl. AN SSSR 149 no.5:
1127-1130 Ap '63. (MIRA 16:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut asbesta,
slyudy i asbestovyykh izdeliy i proyektirovaniya stroitel'stva
predpriyatiy slyudyanoy promyshlennosti. Predstavleno akademikom
P.A.Rebinderom.

(Cement)

(Hydration)

BERKOVICH, T.M., kand. tekhn. nauk; NOVIKOVA, D.A., inzh.

Technological properties of portland cement used in the
manufacture of asbestos-cement products. Trudy NIIAsbest-
tsementa no. 8:103-124 '58. (MIRA 16:8)

BERKOVICH, T.M., kand. tekhn. nauk

Artificial carbonization of asbestos cement. Trudy
NIIAsbesttsementa no.8:125-134 '58. (MIRA 16:8)

KHEYKER, D.M.; BERKOVICH, T.M.

Investigation of the composition of products of hydrothermal
processing of lime and sand binders with the aid of X-ray
phase analysis. Trudy NIIAsbesttsementa no.10:32-38 '59.

(MIRA 16:8)

(Binding materials) (X-rays--Industrial applications)

BERKOVICH, T.M.; KHEYKER, D.M.; GRACHEVA, O.I.; KUPREYEVA, N.I.

Composition of cement for the manufacture of autoclave asbestos
cement. Trudy NIIAsbesttsementa no.10:54-75 '59. (MIRA 16:8)
(Asbestos cement)

BERKOVICH, T.M.

Efficient use of cement in manufacturing asbestos cement
elements. Trudy NIIsbesttsementa no.11:42-60 '61.
(MIRA 16:9)

BERKOVICH, T.M., kand.tekhn.nauk; MAKEYEVA, N.G., inzh.; MEDVEDEVA, R.V., inzh.

Study of the deformation of asbestos cement undergoing hardening
and changes in its moisture content. Trudy NIIAsbesttsementa
no.12:3-17 '61. (MIRA 16:8)

(Asbestos cement)

BERKOVICH, T.M.; SURMELI, D.D.; DVORETSKAYA, R.M.; RAYNISH, Z.B.; NOVIKOVA, D.A.

Autoclave method of producing non-hygroscopic asbestos cement.
Trudy NIAsbesttsementa no.16:108-115 '63. (MIRA 16:8)
(Asbestos cement)

BERKOVICH, T.M., kand. tekhn. nauk; KHEYKER, D.M., inzh.

Phase composition of calcium hydrosilicates in building materials processed by the high-temperature hydrothermal method. Trudy NIIsbestsementa no.8:3-24 '58.
(MIRA 16:8)

BERKOVICH, T.M.; MEDVEDEV, S.S.

Hydrothermal processing of asbestos-cement pipes made with portland cement. Trudy NIAsbesttsementa no.17:70-84 '63.

(MIRA 17:10)

DOLINSKAYA, E.S., inzh.; STUKOVNINA, L.Ya., inzh.; MESHKOV, G.V., inzh.;
BERKOVICH, T.M., kand. tekhn. nauk

System of steaming slate on the SM-898 unlined mechanized flow
line. Stroi. mat. 10 no.10:10-11 0 '64.

(MIRA 18:2)

BERKOVICH, V.A., inzh.

High-strength concretes of fine sands in the Moldavian S.S.R.

Bet. 1 zhel. bet. no.4:184-186 Ap '61.

(MIRA 14:6)

(Moldavia--Concrete)

BERKOVICH, V.A., inzh.

Studies of the grain-size distribution of a rock mass and of the results of crushing in various types of crushing machines. Sbor. trud.VNIINerud no.1:34-39 '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut nerudnykh stroitel'nykh materialov i gidromekhanizatsii.
(Stone, Crushed)

BERKOVICH, V.A., inzh.; NICHIKOV, M.M., inzh.

Granular composition of crushed rock products. Stroil. mat.
10 no.1:34-35 Ja'64. (MIRA 17:5)

KOGAN, G.S., kand. tekhn. nauk; SHCHEGLOVA, V.P., kand. tekhn. nauk;
BERKOVICH, V.A., inzh.

Gypsum cement and fiber pipes for heating and ventilating
systems. Stroi. mat. 10 no.3:28-29 Mr '64. (MIRA 17:6)

KORCHAGIN, V.V., inzh.; OBIDEYKO, P.I., inzh.; BERKOVICH, V.A., kand. tekhn.
nauk

Reprocessing of siftings at the Peredatochnyy crushing and sorting
plant. Stroi. mat. 10 no.11:36 N '64.

(MIRA 18:1)

BERKOVICH, V. B.

GRINENKO, B.S.; BERKOVICH, V.B.

Manufacture of acetylene from natural gas. Gaz.prom. no.12:26-31

D '57.

(MIRA 11:1)

(Acetylene) (Gas, Natural)

S/081/62/000/021/043/069
B171/B101

AUTHORS: Berkovich, V. B., Gordon, S. A.

TITLE: Thermal pyrolysis of methane in a regenerative furnace

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 400, abstract
21M125 (Gaz. prom-st', no. 2, 1962, 33-36)

TEXT: The preparation of C_2H_2 by thermal pyrolysis of CH_4 was carried out in a regenerative furnace of special design, applying high temperatures over varying periods and for various values of residual pressure in the pyrolysis phase. The raw material used was the natural gas containing 98.22% by volume of CH_4 . The dilution of gases by water vapor (WV) and by air, as well as the effects of initiating additions of C_3H_8 and C_4H_{10} , were studied. The most favorable results were obtained when the gas remained 0.007-0.01 sec at the temperature of about $1500^{\circ}C$, the residual pyrolysis-phase pressure being 0.2-0.4 atm. With WV present as diluent the pyrolysis takes a more favorable course and gives higher C_2H_2 yields, ✓

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Thermal pyrolysis of methane ...

S/081/62/000/021/043/069
B171/B101

whereas the importance of the side reaction of elementary dissociation is only $1/3$ as great. For an average concentration of 5% of C_2H_2 in the pyrolyzed gas, the consumption of CH_4 represents 9-10 m^3 per kg C_2H_2 in the absence of WV and up to 6 m^3 when WV is present. The use of air made difficult the pyrolysis in the vacuum. The additions of C_3H_8 and C_4H_{10} had no observable positive effect on the yield of C_2H_2 but caused an increase of carbon-black formation. Considering that the extreme temperatures required for this process hinder the construction of a continuous reaction vessel and that a relatively high vacuum is necessary in the pyrolysis phase, the authors see no prospect of this method being used industrially at the present time. A diagram of the furnace and a description of its operation are given. [Abstracter's note: Complete translation.]

Card 2/2

KIRILLOV, M.N., prof.; GOEBACHEV, V.P., assistant; BERKOVICH, V.I., vetvrach

Early partial and total castration of bulls and rams. Veterinariia
35 no.11:43-44 N '58. (MIRA 11:11)

1. Omskiy veterinarnyy institut.
(Castration)

LOSKUTOV, A.M., prof.; BERKOVICH, V.I., aspirant

Observing prolonged feeding of urea and ammonia water.
Veterinariia 41 no.10:46-48 0 '64.

(MIRA 18:11)

1. Omskiy veterinarnyy institut.

BERKOVICH, Ya.G.

Characterization of certain classes of finite groups. Dokl. AN SSSR
151 no.5:1007-1009 Ag '63. (MIRA 16:9)

1. Gomel'skoye otdeleniye Instituta matematiki i vychislitel'noy
tekhniki AN BSSR. Predstavleno akademikom A.I.Mal'tsevim.
(Groups, Theory of)

BERKOVICH, Ya.G.

Some criteria of the solvability of finite groups. Sib. mat. zhur.
4 no.4:723-728 J1-Ag '63. (MIRA 16:9)

BERKOVICH, Ya.G.

Effect of the π -properties of subgroups on the properties
of a finite group. Sib. mat. zhur. 5 no.1:14-21 Ja-F '64.
(MIRA 17:7)